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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,704

07/18/2005

Ari Vaisanen

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4609

32294

7590

04/02/2009

SQUIRE, SANDERS & DEMPSEY L.L.P.
8000 TOWERS CRESCENT DRIVE
14TH FLOOR
VIENNA, VA 22182-6212

EXAMINER

MANOHARAN, MUTHUSWAMY GANAPATHY

ART UNIT

PAPER NUMBER

2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,704	Applicant(s) VAISANEN ET AL.	
	Examiner MUTHUSWAMY G. MANOHARAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25,27-29,31,32,34-37,39-45,48,49,56,58,59,61,66-78,85 and 86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25,27-29,31,32,34-37,39-45,48,49,56,58,59,61,66-78,85 and 86 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 25, 27-28, 31, 32, 34-36, 39-45, 48-49, 56, 58-59, 61, 66-67, 69, 70-72 74-78 and 85-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raith et al. (hereinafter Raith) (US 6259915) in view of Proctor et al. (hereinafter Proctor) (US 2004/0256963).

Regarding **claim 25**, Raith teaches an apparatus comprising:

Processor configured to provide access to a wireless communication network (base stations 28, 30 in Figure 1), and

determine and transmit communication information to a subscriber terminal, said communication information comprising (Col. 8, lines 27-31), wherein

said communication information comprises frequency band information indicating a plurality of frequency bands on which at least one access node portion of the wireless network is configured to communicate ("alternatively a single message format could be provided which identifies specific channels and hyperbands", Col. 8, lines 31-33) and

wherein said processor is further configured to incorporate the communication information in a signaling using a transmission of specific frames to said subscriber terminal (Figures 8a and 8b, "transmitting a signal from base station to the mobile station", Col. 8, lines 1-11, lines 27-34), and the communication information further comprises a frequency band coverage indicator related to at least one frequency band of neighboring access nodes of the apparatus in the wireless communication network (Raith teaches mobile station receives a neighbor list from the base stations which includes information pertaining to servers operating on different sub bands using two bit length field for identifying bands (Figure 4a,b and col. 5, lines 50-67, col. 6, lines 1-2)).

Note: all mobile and base stations have processors.

Raith fails to teach wireless communication network is a WLAN, based on an IEEE 802.11 standard. However, Proctor teaches in an analogous art the access node, wherein said wireless communication network is a WLAN, based on an IEEE 802.11 standard (Paragraph [0035]). Therefore, it would be obvious to one of ordinary skill in the art at the time invention to have the access node wherein said wireless communication network is a WLAN, based on an IEEE 802.11 standard in order to provide greater connectivity to variety of wired and wireless networks and hence greater flexibility.

Regarding **claim 27**, Proctor further teaches the apparatus, wherein said at least one frequency band comprises a frequency band of 2.4 GHz and one or more frequency bands between 5 and 6 GHz (Paragraph [0035]).

Regarding **claim 28**, Raith further teaches an apparatus, wherein said communication information further comprises a multiple band indicator related to an access node (Col. 5, lines 56-59, Col. 6, lines 1-7).

Regarding **claim 31**, Raith teaches an apparatus according to claim 25, wherein said communication information comprise a frequency channel indicator that indicates the frequency channel used by at least part of the at least one apparatus at the respective frequency band (Col. 8, lines 27-29; Figures 8a-8b).

Regarding **claim 32**, Raith teaches an apparatus comprising:

A processor configured to communicate in a wireless communication network (Figures 1-2);

receive communication information transmitted from at least one access node of the wireless communication network, said communication information comprising (Col. 8, lines 27-31):

frequency band information comprises frequency bands on which the at least one access node is configured to communicate ("alternatively a single message format could be provided which identifies specific channels and hyperbands", Col. 8, lines 31-33), and wherein said communication information is received being transmitted from said at least one access node by signaling by transmission of specific frames (Figures 4-5);

the processor is configured to process the received transmitted communication information so as to determine based on the communication information a

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communication connection capability of at least part of the at least one access node on the basis of the frequency band information ("MAHO", Col. 8, lines 12-26); wherein

the processor is configured to decide on a communication connection changeover for the communicator of the apparatus by using a processing result (Col. 7, lines 58-67), and the communication information further comprises a frequency band coverage indicator related to at least one frequency band of neighboring access nodes of the apparatus in the wireless communication network (Raith teaches mobile station receives a neighbor list from the base stations which includes information pertaining to servers operating on different sub bands using two bit length field for identifying bands

Raith teaches all the particulars of the claim except wherein said wireless communication network is a WLAN, based on an IEEE 802.11 standard. However, Proctor teaches in an analogous art the access node, wherein said wireless communication network is a WLAN, based on an IEEE 802.11 standard (Paragraph [0035]). Therefore, it would be obvious to one of ordinary skill in the art at the time invention to have the access node wherein said wireless communication network is a WLAN, based on an IEEE 802.11 standard in order to provide greater connectivity to variety of wired and wireless networks and hence greater flexibility.

Claim 34 is rejected for the same reason as set forth in claim 27.

Regarding **claim 35**, Raith further teaches a processor is further configured to extract the communication information from a beacon packet broadcasted from the access node (Col. 8, lines 1-5).

Claims 36 and 39 are rejected for the same reason as set forth in claims 28 and 31 respectively.

Regarding **claim 40**, Raith teaches the apparatus according to claim 32, wherein the processor is further configured to:

a detector configured to detect a signal strength indicator on a predetermined frequency band, compare the detected signal strength indicator with a predefined threshold value, wherein the result of the comparison indicating an estimation of the connection capability of an access node on another frequency band, and use the result of said comparison to decide on the communication connection changeover(Col. 6, lines 54-63).

Regarding **claim 41**, Raith teaches the apparatus, wherein the processor is further configured to decide to change the communication connection from the present frequency band to another frequency band that is common to the apparatus and the access node associated with the apparatus (col. 7, lines 44-47).

Regarding **claim 42**, Raith teaches the apparatus, wherein the processor is further configured to decide to change the communication connection from a current access node (item 30 in Figure 1) to a specific frequency band of a neighboring access node that is common to the apparatus and the neighboring access node to be associated with the apparatus (Col. 7, lines 41-67; Col. 8, lines 1-11).

Regarding **claim 43**, Raith further teaches the apparatus, wherein the processor is further configured to process communication information transmitted from two or

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more access nodes in the wireless communication network are processed in said processing step (Col. 8, lines 26-35).

Claims 44 and 45 are rejected for the same reason as set forth in claims 25 and 32 respectively.

Claims 48 and 49 are rejected for the same reason as set forth in claim 32.

Regarding **claim 56**, Raith teaches the apparatus, wherein the signaling comprises a transmission of one or more specific frames (Figures 8a and 8b, "transmitting a signal from base station to the mobile station", Col. 8, lines 1-11, lines 27-34).

Regarding **claim 58**, Raith teaches the apparatus, wherein the multiband indicator indicates at least one frequency band (Col. 5, lines 47-67).

Claims 59 and 61 are rejected for the same reason as set forth in claim 56 and 58 respectively.

Claim 66 is rejected for the same reason as set forth in claim 27.

Claim 67 is rejected for the same reason as set forth in claim 28.

Claim 69 is rejected for the same reason as set forth in claim 31.

Claim 70, 71-72 and 74 are rejected for the same reason as set forth in claims 27, 35, 28, 31 respectively.

Regarding **claim 75**, Raith teaches the method according to claim 49, further comprising: detecting a signal strength indicator on a predetermined frequency band; comparing the detected signal strength indicator with a predefined threshold value

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("communication quality drops below an acceptable threshold", Col. 7, lines 41-67), wherein the result of the comparison indicates an estimation of the communication connection capability of an access node on another frequency band; and using the result of said comparison to decide on the communication connection changeover (Col. 7, lines 41-67; Col. 8, lines 1-11).

Regarding **claim 76**, Raith teaches the method of deciding to change the communication connection from the present frequency band to another frequency band that is common to the subscriber terminal and the access node associated with the subscriber terminal (Col. 7, lines 41-67 and col. 8, lines 1-11).

Regarding **claim 77**, Raith teaches the method according to claim 49, further comprising: deciding to change the communication connection from a current access node to a specific frequency band of a neighboring access node that is common to the subscriber terminal and the neighboring access node to be associated with the subscriber terminal (Col. 7, lines 41-67, Col. 8, lines 1-11).

Regarding **claim 78**, Raith teaches the method according to claim 49, further comprising: processing communication information transmitted from two or more access nodes in the wireless communication network (Figure 1, Col. 7, lines 41-67, Col. 8, lines 1-35).

Claims 85 and 86 are rejected for the same reason as set forth in claims 25 and 32 respectively.

Claims 29, 37, 68 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raith et al. (hereinafter Raith) (US 6259915) in view of Proctor

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et al. (hereinafter Protctor) (US 2005/0256963) and AP (applicant admitted prior art) (US 2006/0073827).

Regarding **claim 29**, the combinations of Raith and Proctor teaches all the particulars of the claim except communication information further comprises a traffic load indicator related to the at least one frequency band of an access node. However, AP teaches in an analogous art communication information further comprises a traffic load indicator related to the at least one frequency band of an access node (Paragraph [0010]). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the communication information further comprises a traffic load indicator related to the at least one frequency band of an access node in order to perform changeover.

Claims 37, 68 and 73 are rejected for the same reason as set forth in claim 29.

Response to Arguments

Applicant's arguments filed 12/18/2008 have been fully considered but they are not persuasive.

Applicant argues that claim 69 is not addressed. The limitations of the claim 31 is same as claim 69 and therefore, rejection of claim 31 reads on claim 69. There are no new grounds of rejection for this claim.

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Applicant argues that the decision on the changeover of the communication connection is different between WLAN and cellular systems. Cellular system is mobile assisted wherein the mobile assist in the selection of an appropriate handover

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frequency and hyperband (Raith: Col. 8, lines 12-17). Therefore, the mobile is making decision on the changeover of the communication system regarding the selection of an appropriate handover frequency and hyperband.

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Applicant argues that the information transmitted from the base station to the mobile station is not a frequency band coverage indicator, as claimed.

Raith further teaches in Fig 4(a) and 4(b) wherein a two bit length field for identifying a hyperband (Col. 6, lines 7). Raith further teaches that "those skilled in the art will appreciate that additional bits could be used to identify more than four different hyperbands".

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MUTHUSWAMY G. MANOHARAN whose telephone number is (571)272-5515. The examiner can normally be reached on 7:00AM-2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eng George can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617